GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:6381
ANSWERED ON:12.04.2017
Central Drug Research Institute
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Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the number of Central Drug Research Institutes in the country at present, State/UT-wise;
(b) the details of the funds sanctioned, allocated and utilised by these institutes during each of the last three years and the current year, institute-wise;
(c) the details of the performance of the said institutes so far, institute- wise;
(d) whether the Government has given any target to these institutes to develop next generation drugs and if so, the details thereof;
(e) whether any collaboration has been made with foreign countries regarding above institutes and if so, the details thereof; and
(f) the steps taken/being taken by the Government to increase the performance of these institutes?

Answer

MINISTER OF STATE FOR SCIENCE AND TECHNOLOGY AND EARTH SCIENCES

(SHRI Y.S. CHOWDARY)

(a) The Council of Scientific & Industrial Research (CSIR) has a constituent laboratory namely Central Drug Research Institute (CDRI) located at Lucknow, Uttar Pradesh.

(b) The details of funds sanctioned, allocated and utilized by CSIR − Central Drug Research Institute, Lucknow :
(Rs. in crore)

Financial Year	2014-15	2015-16	2016-17	2017-18
Funds allocated / utilized	179.789	179.161	159.161	(under finalization) Under process

(c) Details of the performance of CSIR-CDRI are in Annexure-I.

(d) CSIR-CDRI is focused to meet the aspirations of the Nation. To exploit the wide ranging opportunities and be the flag bearer, Institute is currently focusing on New Chemical Entities, Natural Products, Re-purposing of Approved Drugs, and Biologics to meet the challenges of unmet medical need as well as drug resistance in the drugs currently in market. CSIR-CDRI's commitments to National Missions is as follows:
â€¢ Technologies, Products and Service for Make in India, Innovate in India and Swasthya Bharat Mission
â€¢ Be a catalytic agent to evolve India into Samarth Bharat-Sashakt Bharat
â€¢ Achieve global standards
â€¢ Cater to aspirations of common man and develop technologies beneficial to the poor
â€¢ Bring confidence to society about relevance of lab in terms of Social impact

(e) Details about the collaboration with foreign countries are in Annexure-II.

(f) The steps taken/being taken by the Government to increase the performance of CSIR-CDRI are in Annexure-III.

Annexure-I

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The details of the performance of CSIR-CDRI so far:
CSIR-Central Drug Research Institute (CDRI), Lucknow is Seventh in the laboratories that were established in India right after its independence. Formally inaugurated on 17 Feb 1951, CSIR-CDRI is a multidisciplinary research laboratory consisting of scientific personnel of various areas of biomedical sciences. It has the infrastructure and expertise to develop a drug right from the concept stage to the commercialization. The Institute's latest techniques and services are employed for developing drugs, diagnostics and vaccines to combat diseases prevalent among mankind in general and Indian population in particular. Since its establishment the Institute has provided leadership on all fronts of drug R&D, namely, development of new molecules, novel products, cost-effective

indigenous process know how for Institute's candidate drugs and generic drugs/drug intermediates, quality research manpower and trainings in use of sophisticated tools and techniques in drug research. Besides, the Institute has played a critical role in putting the country on the international scene in drug R&D by advancing the knowledge frontier. With a newly set up state of the art drug research laboratory, Institute is poised for a huge leap in the biomedical research landscape in the country with international relevance. Highlights of CSIR-CDRI accomplishments are as below:
â€¢ 13 New Drugs,
â€¢ >85 Process Technologies,
â€¢ 211 patents in force across the globe,
â€¢ 135 patents in force in India,
â€¢ >1500 Ph.D.'s,
â€¢ >2000 Sponsored Trainings
â€¢ >5000 Post Graduate Trainings,
â€¢ >10000 Research Publications,
â€¢ The CSIR-CDRI products that have made a real impact in healthcare include Centchroman, a non-steroidal oral contraceptive for women, licensed to HLL Lifecare Ltd., Thiruvananthapuram (marketing it as Saheli); in the year 2016, Centchroman has been included in the National Family Planning Program and is being distributed freely with a brand name Chhaya.
â€¢ Arteether, a fast acting blood schizontocide, licensed to Mumbai based Themis Medicare is being marketed as E-Mal. This drug has been part of the National Malaria Program.
â€¢ Successful Track Record of New Drug Discovery and Development by CSIR-CDRI:

Drug/Product Use Licensee & year of license
1 a ÃŸ - Arteether Antimalarial Themis Medicare Ltd., Mumbai (1997)
2 Centchroman Contraceptive & DUB HLL Lifecare Ltd., Thiruvananthapuram (1990)
Torrent Pharma. Ltd., Ahmedabad (1991)
3 Bacosides Enriched Standardized Extract of Bacopa Memory improvement Lumen Marketing Co. Chennai (2002)
4 Standardized Extract of Dalbergia sissoo Fracture Healing Pharmanza Herbal Pvt. Ltd., Gujarat (2015)
5 Centimizone Anti-thyroid Unichem Lab. Ltd., Mumbai (1972)
6 Elubaquin Anti-relapse anti-malarial Nicholas Piramal India Ltd., Mumbai (1999)
7 Centpropazine Antidepressant Merind Ltd., Mumbai (1996)
8 Chandonium Iodide Neuromuscular blocker Ranbaxy Labs Ltd., New Delhi (1987)
Cipla Ltd., Mumbai (1995)
9 Consap Spermicidal cream HLL Lifecare Ltd., Thiruvananthapuram (2004)
10 Centbutindole Neuroleptic Chemosyn Pvt. Ltd., Mumbai (1987)
Merind Ltd., Mumbai (1997)
11 Centbucridine Local anaesthetic Themis Chemical Ltd., Mumbai (1987)
12 Gugulipid Hypolipidemic Cipla Ltd., Mumbai (1987)
Nicholas Piramal India Ltd., Mumbai (2000)
13 Isaptent Cervical dilatation Unichem Lab. Ltd., Mumbai (1972)

â€¢ Important Process Development and Technology Transfer:
Generics Therapeutic Use Licensee & year of license
Artemether Antimalarial drug IPCA Labs (1995)
Acyclovir Antiviral drug Ranbaxy (1996)
Sumatriptan succinate 5-HT1 agonist CIPLA (1993)
Primaquine diphosphate Antimalarial Nicholas Piramal and IDL (1994)
Mefloquine Antimalarial Wockhardt (1997)
Paracetamol Analgesic Duphar-Interfran (1973); & 10 other companies
L-Ephedrine hydrochloride Anti-nasal congestion Unichem Laboratories Ltd, (1976); B V M Pharma Ltd, 2013 & 6 Other companies
Indomethacin Anti-inflammatory Kembiotic (1965); IDPL (1976)
Ibuprofen Anti-inflammatory Astra IDL Limited (1984)
Clofazimine Antibacterial IDL Chemicals LTD (1979)
Sulphamethoxazole Antibacterial agent Dolphin Laboratories Pvt Ltd, Kolkata (1977)
Bivalirudin Thrombin inhibitor Biocon Ltd. (2010)

â€¢ So far, CSIR-CDRI has licensed more than 80 process technologies to the Industries, leading to affordability and accessibility of life saving drugs to the Indian population.
â€¢ Distinguished Recognitions and Awards received by CSIR-CDRI and Scientists:

Title Numbers
Padma Shri 4
Shanti Swarup Bhatnagar Prize 7
CSIR Technology Award for Innovation: 3
JC Bose National Fellowship 3
Fellow of Indian Academy of Sciences 10
Fellow of Indian National Academy of Sciences 23
Fellow of National Academy of Sciences, India 30
CSIR Young Scientist Awards 9
INSA Medal for Young Scientists 11

Annexure-II

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Collaboration with foreign countries

CSIR-CDRI is collaborating with many international agencies since inception towards achieving its mandate. Some of the collaborations in the recent past include:

Country Collaborating Research Institute Research Activity Year of Collaboration and Duration of Collaboration
USA Advance Research Products, LLC, 608, 21st Avenue, Paterson, NJ 07513, USA In vitro Screening of ARP compounds 2016-18
USA Pennsylvania State University, University Park, USA To investigate whether Lipocalin 2 (in mice) NGAL9 (in human) is a part of DNA decoration along with MPO, elastase etc in neutrophil extracellular traps (NETs) 2016-18
Brazil Federal University of GoiÃ¡s, Brazil
Deciphering the roles of secreted proteases in host Mycobacterium tuberculosis interaction: Implications for novel drug discovery and vaccine development 2016-20
France Laboratoire de Chimie de Coordination du CNRS, France Original biocompatible phosphorus dendrimers as a new strategy to tackle pulmonary tuberculosis. 2015-18
Spain IRB, Barcelona, Spain and CSIR-CDRI Lucknow Collaboration for understanding organellar translation initiation and stop codon recognition as well as design and evaluation of specific inhibitors 2012 - 2015
USA Kemxtree LLC
1370 Hamilton Street
Somerset, NJ 08873 Discovery and Development of Novel Bone Anabolic agents for accelerated fracture healing (Tripartite) 2014
JAPAN University of Tokyo
Toho University School of Medicine This was an exploratory project on the circadian modifications in cancer progression 2011 Sept-2014 Sept that investigated the role of circadian proteins involved in cancer pathogenesis. 2011 - 2014
Germany Institute of Pharmacy, Freie University of Berlin, Germany PK −PD modeling using NONMEM for drug development 2013
USA Tufts Medical Centre, Bostan, MA Screening of a series of 4-amino quinoline derivatives for identifying more potent and/or functionally altered ligands 2013
UK The University of Cambridge of the Old Schools, University of Cambridge To investigate the ability of the specified CSIR-CDRI compounds to inhibit the interaction of human platelets with the collagen receptor GPVI 2013
Spain

Germany Biologia Molecular (CBMSO) Ministry of Science and Innovation, Spain
Centro de Spain
Goethe University BMBF Germany To identify nitroxidative stress -related vascular and inflammatory damage present in diabetic models 2011 − 2013
EU 7 institutes from India, Europe and Australia This was a large collaborative project completed in 2013 that investigated translation mechanisms and their inhibition in the malaria parasite. An international team of researchers with complementary expertise (including Dr. Saman Habib from CSIR-CDRI) worked to decipher organellar translation mechanisms. 2009 - 2012
Geneva DNDi, Geneva Exchange of expertise and facilities 2008-2012
France European Synchrotron Radiation Facility (ESRF), Grenoble France, Essential for protein crystallography studies 2007 onwards

Annexure-III

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The steps taken/being taken by the Government to increase the performance of these institutes

CSIR-CDRI is currently involved in multifarious activities including new Drug development, Technologies, New knowledge and Intellectual space generation, High quality Human Resource development, Societal activities and also play a role in policy matters at various levels. The major mandate of the Institute is new drug discovery and development for unmet medical needs and the thrust areas of research are:
â€¢ Malaria & other Parasitic Diseases (Malaria, Filariasis, Leishmaniasis)
â€¢ Reproductive Health Research, Diabetes & Energy Metabolism (Anti-fertility, Osteoporosis, Diabetes, Breast Cancer)
â€¢ Tuberculosis and Microbial Infections
â€¢ CVS, CNS and Related disorders (Thrombosis, Dyslipidaemia, Obesity, Inflammation, Dementia, Hypertension)
â€¢ Cancer and Related Areas
â€¢ Safety & Clinical Development
CSIR-CDRI is equipped with necessary facilities for drug research under one roof i.e. from synthesis, screening, development studies, process up-scaling to clinical studies. To remain at par with international excellence in the domain of activity, Institute facilities are persistently upgraded to benefit its ongoing drug discovery and development programs as well as open for external users including other Government Institutes, Academic Centres and Industries.

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